

IN THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (previously presented): An isolated nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof wherein said isolated nucleic acid encodes ABCA12.

Claim 2 (canceled)

Claim 3 (currently amended): An isolated nucleic acid comprising a nucleic acid sequence that has at least 80% nucleotide identity with a nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof, wherein a polypeptide encoded by said isolated nucleic acid or complement thereof binds ATP, comprises a transmembrane domain, and is an ABCA member. ~~or a combination thereof.~~

Claim 4 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 85% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 5 (previously presented): The isolated nucleic acid of claim 3, wherein said An isolated nucleic acid is at least 1,000 nucleotides in length that and hybridizes in 5X SSC at 60°C with a nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof.

Claim 6 (canceled)

Claim 7 (previously presented): A nucleotide probe or primer specific for the ABCA12 gene, wherein the nucleotide probe or primer consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25.

27, 28, 30, 35, 40, 45, 50, 70, 80, 100, 200 or 500 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or a full length complement of said probe or primer.

Claim 8 (previously presented): A nucleotide probe or primer specific for the ABCA12 gene, wherein the nucleotide probe or primer consists of a nucleotide sequence of any one of SEQ ID NOs: 7-38, or a full length complement thereof.

Claim 9 (original): The nucleotide probe or primer according to any of claim 7 or 8, wherein the nucleotide probe or primer comprises a marker compound.

Claims 10-11 (canceled)

Claim 12 (original): A kit for amplifying the nucleic acid according to claim 1, wherein the kit comprises: a) two nucleotide primers whose hybridization position is located respectively 5' and 3' of the region of the nucleic acid; and optionally, b) reagents necessary for an amplification reaction.

Claim 13 (previously presented): The kit according to claim 12, wherein the two nucleotide primers are selected from the group consisting of a) a nucleotide primer consisting of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 35, 40, 45, 50, 70, 80, 100, 200 or 500 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or of a complementary nucleotide sequence thereof, and b) a nucleotide primer consisting of a nucleotide sequence of any one of SEQ ID NOs: 7-38, or a complementary sequence thereof.

Claims 14-15 (canceled)

Claim 16 (previously presented): A kit for detecting the nucleic acid according to claim 1, wherein the kit comprises a) a nucleotide primer as in claim 7 or a nucleotide primer as in claim 8, and optionally, b) reagents necessary for a hybridization reaction.

Claim 17 (original): The kit according to claim 16, wherein the probe is immobilized on a support.

Claims 18-21 (canceled)

Claim 22 (original): An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of any one of SEQ ID NO:5 or 6.

Claims 23-40 (canceled)

Claim 41 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 90% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 42 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 95% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 43 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 98% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claims 44-46 (canceled)

Claim 47 (previously presented) The isolated nucleic acid according to claim 5, wherein the nucleic acid comprises at least 1,500 consecutive nucleotides.

Claims 48-50 (canceled)

Claim 51 (previously presented): The isolated nucleic acid according to claim 5, wherein the nucleic acid comprises at least 1,500 nucleotides.

Claim 52 (previously presented): The probe or primer according to claim 7, wherein the probe or primer consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 35, 40 consecutive nucleotides.

Claim 53 (previously presented): The probe or primer according to claim 7, wherein the probe or primer consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30 or 35 consecutive nucleotides.

Claim 54 (previously presented): The probe or primer according to claim 7, wherein the probe or primer consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24 or 25 consecutive nucleotides.

Claim 55 (previously presented): The probe or primer according to claim 7, wherein the probe or primer consists of 8, 9, 10, 12, 15, 18, 19 or 20 consecutive nucleotides.

Claim 56 (previously presented): The kit according to claim 13, wherein the primer of step (a) consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 35, 40 consecutive nucleotides.

Claim 57 (previously presented): The kit according to claim 13, wherein the primer of step (a) consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30 or 35 consecutive nucleotides.

Claim 58 (previously presented): The kit according to claim 13, wherein the primer of step (a) comprises no more than 25 consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24 or 25 consecutive nucleotides.

Claim 59 (previously presented): The kit according to claim 13, wherein the primer of step

(a) consists of 8, 9, 10, 12, 15, 18, 19 or 20 consecutive nucleotides.

Claim 60 (previously presented): The kit according to claim 16, wherein the probe or primer of item (1) (a) consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30, 35, 40 consecutive nucleotides.

Claim 61 (previously presented): The kit according to claim 16, wherein the probe or primer of item (1) (a) consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 30 or 35 consecutive nucleotides.

Claim 62 (previously presented): The kit according to claim 16, wherein the probe or primer of item (1) (a) consists of 8, 9, 10, 12, 15, 18, 19, 20, 21, 22, 23, 24 or 25 consecutive nucleotides.

Claim 63 (previously presented): The kit according to claim 16, wherein the probe or primer of item (1) (a) consists of 8, 9, 10, 12, 15, 18, 19 or 20 consecutive nucleotides.